IN THE CLAIMS:

Claim 1 (currently amended) A computing device which processes or stores information with a DNA based number system, wherein the system has four bases comprising A, T, C and G and wherein each base is assigned ~~an arbitrary~~ a value comprising A=0, T=1, C=2, G=3 and wherein both integers and real numbers are represented ~~in the form of~~ by a plurality of DNA bases, the value of a ~~the~~ base in the ~~system~~ plurality of bases being positional.

Claim 2 (currently amended) A ~~system~~ computing device as claimed in claim 1, wherein each of the real numbers ~~are~~ is represented ~~as floating-point representation~~ in 32-bases, including a first plurality of bases for representing a magnitude of the real number and a second plurality of bases for representing an exponent.

Claim 3 (currently amended) A method for processing or storing information comprising (i) representing numbers in the form of DNA bases (A, T, C, G) comprising:

a) assigning ~~arbitrary~~ values to each DNA base wherein A=0, T=1, C=2, G=3;

b) assigning ~~arbitrary~~ complementary values to each DNA base ~~such that~~ with a complement of A = G, a complement of T=C and vice-versa; and

(ii) processing or storing information with the numbers in the form of DNA bases.

Claim 4 (currently amended) A method as claimed in claim 3, wherein each of the numbers ~~the number~~ is selected from the group consisting of a positive integer, a negative integer, a positive real number and a negative real number.

Claim 5 (cancelled)

Claim 6 (currently amended) A method as claimed in claim 3, wherein each number is represented by a plurality of bases and the value of each base in the plurality of bases ~~DNA based number system~~ is positional.

Claim 7 (currently amended) A method as claimed in claim 4, wherein a ~~the~~ positive integer is represented in a cell comprising the DNA bases ~~converted into the DNA base representation~~ by:

(a) dividing the positive integer ~~so obtained~~ by four and extracting a ~~the~~ remainder;

(b) repeating step (a) till a quotient of 0 is reached;

(c) extracting a ~~marking the~~ first remainder digit as the least ~~lest~~ significant digit (LSD);

(d) extracting a ~~marking the~~ last ~~extracted~~ digit as the ~~most~~ main significant digit (MSD);

(e) writing the digits extracted from left to right from MSD to LSD; and

(f) completing ~~a~~ the cell by adding bases as padding, if required, and adding a sign base ~~to~~ at the left of the cell.

Claim 8 (currently amended) A method as claimed in claim 4, wherein the numbers comprise negative ~~integer~~ integers ~~is converted to a DNA base representation thereof~~ with each of the negative integers represented in a cell by;

(a) first changing the negative integer into a positive integer;

(b) dividing the positive integer ~~so obtained~~ by four and extracting ~~the~~ a remainder;

(c) repeating step (c) till a quotient of 0 is reached;

(d) extracting a ~~marking the~~ first remainder digit as the ~~lest~~ least significant digit (LSD);

(e) extracting a ~~marking the~~ last ~~extracted~~ digit as the ~~most~~ main significant digit (MSD);

(f) writing the digits extracted from left to right from MSD to LSD; and

(g) completing ~~a~~ the cell by adding bases as padding, if required, and adding a sign base to the left of the cell;

(h) producing a complement by changing the A's to G's and T's to C's and vice versa; and

(i) adding a base T (=1) to the complement;

wherein the left most base of the completed ~~byte/cell~~ cell represents ~~the~~ a sign of the integer.

Claim 9 (currently amended) A method as claimed in claim 4, wherein the numbers comprise positive real ~~number~~ numbers with each of the positive real number represented in a cell by ~~is converted into a DNA base representation thereof, comprising~~:

(a) first converting the positive real number into a positive integer by shifting a ~~the~~ decimal point to the right;

(b) dividing the positive integer ~~so obtained~~ by four and extracting ~~the~~ a remainder;

(c) repeating step (b) till a quotient of 0 is reached;

(d) extracting a ~~marking the~~ first remainder digit as the ~~lest~~ least significant digit (LSD);

(e) extracting a ~~marking the~~ last ~~extracted~~ digit as the ~~most~~ main significant digit (MSD);

(f) writing the digits extracted from left to right from MSD to LSD; ~~and~~

(g) completing ~~a~~ the cell by adding bases as padding, if required, and adding a sign base to the left[[.]] of the cell; and

(h) recording the number of points shifted and represented as an exponent, wherein the leftmost base represents a sign base of the number, and the next 23-bases represent ~~the~~ a magnitude and ~~the~~ a remaining ~~rest~~ 8-bases represent ~~the~~ an exponent.

Claim 10 (currently amended) A method as claimed in claim 4, wherein the numbers comprise positive real numbers and negative real numbers, wherein a

~~the~~ sign base ~~in the case~~ of each of the positive real ~~number~~ numbers is "T" and a sign base ~~in the case~~ of each of the negative real ~~number~~ numbers is "C".

Claim 11 (currently amended) A method as claimed in claim 4, wherein the numbers comprise negative real numbers with each of the ~~a~~ negative real ~~number~~ numbers ~~is converted into a DNA base representation thereof, the method comprising~~ represented in a cell by:

(a) taking the negative real number as a positive real number;

(b) converting the positive real number into a positive integer by shifting ~~the~~ a decimal point to the right;

(c) dividing the positive integer ~~so obtained~~ by four and extracting ~~the~~ a remainder;

(d) repeating step (b) till a quotient of 0 is reached;

(e) extracting a ~~marking the~~ first remainder digit as the ~~lest~~ least significant digit (LSD);

(f) extracting a ~~marking the~~ last extracted digit as the ~~most~~ main significant digit (MSD);

(g) writing the digits extracted from left to right from MSD to LSD; and

(h) completing ~~a~~ the cell by adding bases as padding, if required, and adding a sign base to the left[[.]] of the cell; and

(i) recording the number of decimal points shifted ~~and represented~~ as an exponent;

wherein the leftmost base represents a sign base of the number, and a next 23-bases represent ~~the~~ a magnitude and a remander of ~~the rest~~ 8-bases

~~represent~~ represents ~~the~~ an exponent.

Claim 12 (withdrawn/currently amended) A software based on the DNA based number system of claim 1 wherein:

a) the integers are represented as 8 bases/cell and a complement representation ~~is used to represent~~ represents negative integers and wherein positive integers do not have complements and ~~the~~ a leftmost base in the cell represents ~~the~~ a sign of the integer;

b) and wherein each of the real numbers ~~are~~ is represented as 32 bases/cell ~~using floating point representation scheme~~, wherein ~~the~~ a leftmost base represents ~~the~~ a sign of the real number, a next 23 bases ~~represent~~ represents ~~the~~ a magnitude of the real number and a remaining ~~rest~~ 8 bases ~~represent~~ represents ~~the~~ an exponent ~~i.e.~~ representing a number of bases ~~the~~ a decimal was shifted ~~towards~~ right to convert the real number to an integer.

Claim 13 (new) A computing device as claimed in claim 1, comprising software which translates the plurality of bases into the integers and real numbers.

Claim 14 (new) A computing device as claimed in claim 13, wherein:

a) the integers are represented as 8 bases/cell and a complement representation represents negative integers and wherein positive integers do not have complements and a leftmost base in the cell represents a sign of the integer;

b) and wherein each of the real numbers is represented as 32 bases/cell, wherein a leftmost base represents a sign of the real number, a next 23 bases represents a magnitude of the real number and a remaining 8 bases represents an exponent representing a number of bases a decimal was shifted right to convert the real number to an integer.

Claim 15 (new) A method for processing or storing information comprising (i) representing numbers in the form of DNA bases (A, T, C, G) by

assigning values to each DNA base; wherein a positive integer is represented in a cell comprising the DNA bases by:

a) dividing the positive integer by four and extracting a remainder;
b) repeating step (a) till a quotient of 0 is reached;
c) extracting a first remainder digit as the least significant digit (LSD);
d) extracting a last digit as the main significant digit (MSD);
e) writing the digits extracted from left to right from MSD to LSD; and
f) completing the cell by adding bases as padding, if required, and adding a sign base at the left of the cell.

Claim 16 (new) A method as claimed in claim 15, wherein the numbers also comprise negative integers with each of the negative integers represented in a cell by;

(g) first changing the negative integer into a positive integer;
(h) dividing the positive integer by four and extracting a remainder;
(i) repeating step (c) till a quotient of 0 is reached;

(j) extracting a first remainder digit as the least significant digit (LSD);

(k) extracting a last digit as the main significant digit (MSD);

(l) writing the digits extracted from left to right from MSD to LSD; and

(m) completing the cell by adding bases as padding, if required, and adding a sign base to the left of the cell;

(n) producing a complement by changing the A's to G's and T's to C's and vice versa; and

(o) adding a base T (=1) to the complement;

wherein the left most base of the completed cell represents a sign of the integer.